

Elizabeth Usher Memorial Lecture: Language is literacy is language - Positioning speech-language pathology in education policy, practice, paradigms and polemics

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INVITED ARTICLE

Elizabeth Usher Memorial Lecture: Language is literacy is language - Positioning speech-language pathology in education policy, practice, paradigms and polemics

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Abstract

This paper is concerned with the fundamental and intrinsic links between early receptive and expressive oral language competence on the one hand and the transition to literacy in the early school years and achievement of academic (and life) success on the other. Consequently, it also concerns the professional knowledge base of two key disciplines whose work is central to children's early language and literacy success: teachers and speech-language pathologists (SLPs). Oral language competence underpins the transition to literacy, which in turn underpins academic achievement. Academic achievement is significant in its own right, conferring opportunities for further education and training post-secondary school, contributing to psychological health and mitigating some of the mental health risks and adversities that can be associated with adolescence and early adulthood. The central thesis is that the linguistic basis of the transition to literacy makes early reading success core business for SLPs. Further, SLPs need a firm grasp of the political and ideological factors that have exerted historical and continuing influence on reading instruction in western nations such as Australia, the US and the UK. This will facilitate the establishment of meaningful working relationships with teaching colleagues, to achieve optimal education outcomes for all children.

Keywords: *Language, literacy, "reading wars"*

Introduction

Academic achievement, when considered in late adolescence/early adulthood, is a complex outcome of a range of complex inputs, spanning biological, social, environmental and instructional constructs. However, we also need to consider the role of early academic achievement (conceptualised here as the first 3 years of formal schooling) as a predictor of later educational success and psychosocial wellbeing. As Spira, Bracken, and Fischel (2005, p. 233) remind us

... children's level of reading achievement is determined early in their school experience ... By third grade, the level of reading ability that children have attained is likely to remain relatively stable; it is difficult to escape a pattern of failure that has lasted through a large part of elementary school.

It is this predictor status of early literacy achievement, in particular, that will be a focus of this paper.

It is argued in this paper that SLPs need to have a clear understanding of the historical and contemporary influence of Whole Language-based teaching ideologies and methodologies in faculties of education and, as a direct and enduring consequence, early years' classrooms. SLPs also need to understand the influence of socio-economic status (SES) on early language exposure with respect to early school success; hence the literature on this will also be considered in this paper.

Related to this historical context, it is further posited that an unhelpful divide exists between the knowledge-base of SLPs and that of teachers with respect to key linguistic concepts relevant to the teaching of reading. Evidence for this is derived from Australian and international studies showing that primary teachers score poorly on measures asking them to identify and manipulate linguistic elements at the phonological, morphological, etymological and sentence/discourse levels. This divide reflects in part

the epistemological lineage of speech-language pathology as a *health* profession, in which empirically-derived scientific evidence has been a cornerstone of theory and practice, particularly in the last two decades. Education, on the other hand, has enjoyed a somewhat more “casual” relationship with evidence and has, as a consequence, been prone to “fads and fashions” at the whim of decision-makers of the day (Hempenstall, 2005, 2006; Moats, 2000). This perspective is well summarised by Moats (2000, p. 12), who observed that “Unfortunately, lack of rigour and respect for evidence in reading education are reinforced by the passivity of education leaders who feel that any idea that can muster a vigorous advocate is legitimate and deserves to be aired”. Practitioners who work in school settings would recognise a number of non-evidence-based classroom approaches that have been sympathetically (even enthusiastically) and uncritically adopted by education academics and policy-makers. While chief among these might be said to be the shift to Whole Language-based instruction that occurred in the second half of the twentieth century, this is only one of a range of approaches that may have some face appeal, but lack a scientifically rigorous theoretical and empirical basis. Other examples include so-called learning styles, Brain Gym, left-brain Vs right-brain learners, sensorimotor integration, and coloured lenses for struggling readers—to name a few.

A Response to Intervention (RTI) framework for addressing academic and behavioural success is proposed as a way forward, to assist SLPs to focus their classroom contributions across the universal, targeted and specialist levels, in order to (a) ensure maximum benefit of SLP expertise in school settings and (b) reduce the likelihood of the skill-base of SLP being eroded through over-exposure to RTI Tier 1, at the expense of meeting the often quite complex needs of children at Tiers 2 and 3. Finally, it is argued that SLPs need to learn about evidence-based reading instruction in their pre-service years, so that they can better bridge the health-education gap, in their collaborative efforts with teachers, in order to achieve improved reading outcomes for all children, irrespective of children’s socioeconomic or developmental starting point. Throughout this paper, reference will be made to the primary school years, which in Australia cover a 7-year period from a foundation year through to Grade 6. The paper is also concerned with students learning to read and write in English, a language that has a partially transparent orthography.

While reading acquisition is a critical developmental achievement in the early years of school, it should not be considered in isolation from other aspects of children’s linguistic, cognitive, behavioural, and emotional development. For that reason, some examination of the broader developmental context for the emergence (or lack thereof) of literacy skills is warranted and a key focus for this is the role of early oral language competence.

Adolescent mental health in a risk and protective factor framework: Peeling the onion to find oral language

It is usual, when considering risk of adverse mental health outcomes in adolescence (e.g. depression, anxiety, substance abuse, antisocial behaviour), to employ a “risk and protective factor” framework (e.g. Bond, Toumbourou, Thomas, Catalano, & Patton, 2005; Christle & Yell, 2008; Fuller, 1998). Such frameworks typically consider both risk and protective factors across four levels: the individual, the family, the school and the community. They invite consideration of the ways in which factors on both sides of the ledger interact to inform the likelihood of adverse outcomes in adolescence and early adulthood. Critically, academic success is often featured as a prominent factor on both sides of the ledger; its presence mitigates some adversities and promotes the likelihood that a young person feels connected to school and likely to persevere with education (Libbey, 2004). Bond et al. (2005, p. 83) reported that “Strong protective associations were evident for attachment to family and school, and for rewards and opportunities for prosocial behaviour in the family, school and to a lesser extent the community”, thus underscoring the role of early oral language competence for both academic and social success in the developmental period. Conversely, academic struggle can be both a marker of earlier developmental difficulties, as well as a risk for early school disengagement and affiliation with similarly disaffected peers (Gifford-Smith, Dodge, Dishion, & McCord, 2005). In this sense, academic achievement needs to be positioned as central to a young person’s current and future mental health, as this is key not only to positive self-esteem and self-efficacy, but also to further education and training and opportunities for full engagement in the economic mainstream.

When considering mental health, it is important to note that in the developmental period this term encompasses so-called *externalising* disorders (attentional disorders, oppositional defiant disorder, conduct disorder) and *internalising* disorders (most notably anxiety and depression). While it is common to consider these as two separate categories of psychiatric morbidity; in reality, *comorbidity* is common in clinical samples (Chan, Dennis, & Funk, 2008), and one may mask the other. For example, the presence of conduct disorder may blindside adults to the existence of anxiety or depressed mood. Cohen, Davine, Horodezky, Lipsett, and Isaacson (1993) observed more than 20 years ago, that children find their way into the service delivery system by virtue of what the key adults in their world see as the primary handicapping condition. It is hardly surprising that conduct and attentional disorders attract the attention of parents and teachers, but it is notable that, when such children undergo

formal language assessments, high percentages of them (34.4% in the above study) are found to have clinically significant expressive and receptive language difficulties and these children have more severe externalising behaviour problems than their non-language impaired peers. Cohen, Barwisck, Horodezky, Vallance, and Im (1998) further reported that language impairment is associated with particular psychosocial and academic disadvantage for children with other psychiatric comorbidities.

Behaviour disturbances are very serious mental health problems in their own right, and may also be flags for underlying neurodisability as well as unidentified risk exposure, such as abuse and/or neglect (Cohen, 2001). Inability to effectively self-monitor, self-regulate, and abide by culturally-determined social conventions extracts a high psychosocial and academic cost in the school years, and as a consequence behaviour difficulties require detailed clinical analysis and action planning by teachers, SLPs and welfare staff such as social workers and educational psychologists. Behaviour difficulties may mask unidentified skill deficits with respect to verbal communication, making them clear targets for SLP expertise (Cohen, 2001; Cross, 2011).

Reading success and mental health

There is strong evidence from the developmental psychiatry literature that early reading difficulties are not only relevant to academic aspects of school success, but are also related to children's ability to develop prosocial interpersonal skills (e.g. Bennett, Brown, Boyle, Racine, & Offord, 2003; Carroll, Maughan, Goodman, & Meltzer, 2004; Morgan, Farkas, Tufis, & Sperling, 2008). The literature on comorbidities between reading difficulties and behaviour/mental health needs to be considered alongside a comparable body of work in recent years that has examined the psychosocial difficulties experienced by children and adolescents identified on the basis of oral language impairments rather than reading difficulties (Brownlie, Beitchman, Escobar, Young, Atkinson, Johnson, et al., 2004; Conti-Ramsden & Botting, 2008; Snowling, Bishop, Stothard, Chipchase, & Kaplan, 2006; St Clair, Pickles, Durkin, & Conti-Ramsden, 2011); although reading difficulties may also be identified in the longer term in such samples (e.g. Elbro, Dalby, & Maarbjerg, 2013). At the more extreme end of the oral-language-and-behaviour-nexus, we should remember, too, that young people engaged with the youth justice system (in itself a marker of severe conduct disorder), have been found in a number of international studies to display oral language skills one to two standard deviations below the mean (if not more), often in the absence of other known explanatory/contributory comorbidities (see Bryan, 2004; Bryan, Freer, & Furlong, 2007; Sanger, Moore-Brown, Magnuson, & Svoboda, 2001;

Snow & Powell, 2008, 2011). The finding that young offenders performed more poorly than a group of non-offending peers from a similar low-SES background, but aged on average, 12 months *younger*, suggests that low-SES alone does not account for the language profiles of this population (Snow & Powell, 2008). Further, oral language difficulties in incarcerated young offenders have been found to be associated with pattern and severity of offending, with those young people who have more serious and/or recidivist offending histories performing more poorly on many oral language measures than those whose offending profiles were less extreme (Snow & Powell, 2011). There is a "school-to-prison pipeline" for young people with multiple risk factors (Christle, Jolivet, & Nelson, 2005), in which "... academic problems often foster behaviour problems, which frequently result in disciplinary practices (e.g. time-out, suspension) that remove the student from academic instruction" (p. 70). Significantly, evidence indicates that students (particularly boys) who experience suspensions on behaviour grounds are more likely than typically-developing peers have undiagnosed language impairments (Clegg, Stackhouse, Finch, Murphy, & Nicholls, 2009; Ripley & Yuill, 2005). This pipeline is further evidence of the important nexus between oral language competence, the transition to literacy, and psychosocial wellbeing across the school years and beyond.

Language and literacy: Same, same, but different?

This converging evidence about links between reading success and mental health on the one hand, and oral language competence and mental health on the other, raises the issue of *homotypic comorbidity* between language and reading difficulties and the likelihood that there is a shared aetiological contribution of poor oral language skills to both poor reading and psychosocial difficulties in the primary school years (Snowling & Hulme, 2012). The notion of homotypic comorbidity simply refers to the fact that, when we think we are looking at two separate conditions in the one child, we need to consider the possibility that condition B is a later or different manifestation of condition A. This term draws on arguments in a 1991 paper by Caron and Rutter, who referred (in relation to the diagnostic classification process of childhood disorders more generally) to the idea that in some cases "... one disorder constitutes an early manifestation of the other" (Caron & Rutter, 1991, p. 1071). Snowling and Hulme (2012) applied the notion of homotypic comorbidity to language and literacy, proposing that "... a Reading Disorder is simply a later manifestation of what was observed earlier as a disorder of spoken language development" (p. 597). Of course there is a significant assumption in this statement

and that is the notion that children's pre-school disorders of oral language were in fact "identified earlier", which is not always the case. In the same paper, Snowling and Hulme (2012) also reference the notion that "literacy is parasitic on language" (p. 597). The Macquarie Dictionary (1981) defines a parasite (as among other things) "An animal or plant which lives on or in an organism of another species (the host), from the body of which it obtains nutriment". Although this analogy speaks to the symbiotic nature of the relationship between language and literacy, it unfortunately fails to reflect the fact that, across the lifespan, language and literacy enjoy a *mutually beneficial* relationship, with gains in one domain being of direct benefit to the other. Nippold (2007) has observed, for example, that children who readily make the transition to literacy derive an additional oral language benefit from reading, as they are exposed to new words, idioms and grammatical structures for the first time through their engagement with text. On the other hand, children who are identified in childhood on the basis of poor oral language skills are likely to go on to experience considerable language and literacy difficulties that persist into adulthood (Whitehouse, Line, Watt, & Bishop, 2009). In this sense, it might be more helpful to think of oral language and literacy as "inseparable friends" who take turns to piggy-back on each other during the school years and beyond.

While consideration of links between emotional and behavioural wellbeing and academic success is relatively commonplace in adolescent mental health and social psychology literature, it is notable that workers in such fields have not "peeled the onion" on the construct "academic success", to identify its component parts. In order to achieve academically, children must make the transition to literacy at the developmentally appropriate time, so that they are able to keep up with the increasingly complex demands inherent in text-based learning associated with literate language in the academic curriculum (Nippold, 2007). Facility with reading and writing goes hand-in-hand with academic success as a necessary but not sufficient ingredient. While not all students who master reading and writing at developmentally appropriate levels go on to achieve academic success (e.g. as defined by school completion and transition to further education and training or employment), those who are academically successful, as defined here, will almost certainly have achieved at least minimum benchmark levels on reading and writing throughout their school years.

Where once it was possible for students who were not academically inclined to exit school and find so-called blue collar or clerical roles, western nations have an increasingly technology-driven workforce and employment opportunities at the unskilled end of the spectrum are simply disappearing. Levy

and Murnane (2004, p. 3), for example, observed a decade ago that:

As recently as 1970, more than one half of US employed adults worked in two broad occupational categories: blue collar jobs and clerical jobs ... Today, less than 40% of adults have blue collar or clerical jobs and many of these jobs require at least some college education. The computerization of work has played a significant role in this change.

This shift in workforce composition and opportunities for engagement in the economic mainstream stands to disadvantage students who exit school with poorly developed oral language and literacy skills. It also reinforces the importance of maximising the quality of the early instructional environment so that *all*, not just most children, successfully make the transition to literacy and can fully access opportunities for further educational advancement.

So, what does it mean to make the transition to literacy? At a macro level, the transition to literacy is life-changing, opening doors to lifelong learning, post-secondary training, employment and housing stability and improved health across the lifespan (Gakidou, Cowling, Lozano, & Murray, 2010; Viner, Ozer, Denny, Marmot, Resnick, Fatusi, et al., 2012). At the micro level, the transition to literacy is a linguistic achievement, building on the psycholinguistic competencies (phonemic awareness, expressive and receptive vocabulary, narrative language skills and so on) that children bring to school and (ideally) augmenting these with best-practise classroom instructional approaches that foster the child's ability to transition from a biologically "natural" code (talking and listening) to one that is biologically "unnatural", but of enormous social, political, cultural and economic importance. This transition is considered more closely below.

Learning to read: A biologically unnatural task

While humans have evolved spoken language over millions of years, as a result of evolutionary privileging of specialised neural networks in the human brain, reading and writing are much more recent human achievements, having emerged only some 3000 years BC (Fischer, 2001). In this sense, they are skills that have needed to "borrow" neural networks that evolved for phylogenetically and ontogenetically earlier human achievements: speaking and understanding (Liberman & Liberman, 1990). It is thus not surprising that reading has been described as "a biologically unnatural act" (Gough & Hillinger, 1980). Notably, this assertion is not accepted by Whole Language proponents, who view written language "... as an analogous and equally natural process" to spoken language (Hempenstall, 2005, p. 20). In spite of this biological unnaturalness, some children, of course, will make the transition to literacy seemingly irrespective

of their instructional environment, as observed some 35 years ago by Gough and Hillinger (1980, p. 180), when they stated:

To be sure, there are exceptions; some children learn to read with little apparent difficulty. By the end of the first grade, or even before, some children can read anything put in their hands . . . But the achievement test results show that the statistically average child, normally endowed and normally taught, learns to read with considerable difficulty. He does not learn to read naturally.

This position was further extended by Gough (1996), who noted that the argument promulgated by advocates of Whole Language-based approaches to early literacy instruction, that learning to read is as natural as learning to speak, is easily countered by the fact that, while speech is a universal (barring biomedical barriers such as deafness), literacy is most certainly not. Worldwide, many people can speak and understand oral language, but are unable to operate effectively (if at all) via a written code.

So here we must grapple with a paradox. On the one hand, there is strong consensus in the cognitive psychology, developmental neuropsychology and speech-language pathology literature that learning to read is a linguistic task. On the other hand, however, spoken language and written language are not one and the same and nor is the process by which they are acquired one and the same. One requires much exposure, immersion and real-time experience in the interpersonal space, while the other requires specific instruction and repeated practice. A failure to understand and accommodate this apparent paradox seems to underlie much of the persistent influence of Whole Language instruction and its descendant educational ideologies and pedagogies, e.g. Reading Recovery and so-called “Balanced Literacy”.

One of the most important, yet often subtle educational transitions that children experience is the shift from *learning to read* (a large focus of the first 3 years of school) to *reading to learn*. While reading instruction in the early years might be guided by widely differing pedagogical theories, it nevertheless occupies a large part of the day in early years classrooms. As noted earlier, Spira et al. (2005) remind us, however, that it is also at this point that children’s percentile ranking with respect to early reading achievement becomes relatively fixed (i.e. the fourth year of schooling). So children who arrive at this point with well-developing reading skills are well-positioned to cope with this shift in emphasis. With appropriate scaffolding, they will be able to locate, utilise and generate written information on topics across the curriculum, in order to gain knowledge and understanding, as well as constructing their own written texts for the purpose of sharing such information with others and achieving

academically. Hence, a steep increase in reading comprehension needs to occur in the primary school years. It has been estimated that the Year 2 child needs to understand ~300–400 words, rising to 3000–4000 in Years 3 and 4, and 10 000 in Year 5 (Hempenstall, 2005). Children who stumble on this steep ascent fall victim to the so-called “fourth grade slump” (Chall & Jacobs, 2003).

Closely related to this transition from learning to read, to reading to learn, is the notion of the so-called “Matthew Effect”. This term was used in relation to early reading progress by Stanovich (1986), and echoes the New Testament verse that can be paraphrased as “The rich get richer and the poor get poorer”. Applied to early reading success, the Matthew Effect means that:

The very children who are reading well and who have good vocabularies will read more, learn more word meanings, and hence read even better. Children with inadequate vocabularies—who read slowly and without enjoyment—read less, and as a result have slower development of vocabulary knowledge, which inhibits further growth in reading ability (Stanovich, 1986, p. 381).

This observation (which continues to be confirmed in ongoing research, e.g. see Duff, Tomblin, & Catts, 2015) underscores two important principles in the early years: the role of children’s pre-school oral language exposure and experience, and the nature of the reading instruction they encounter in the early years classroom. In the next section, I consider socioeconomic influences on children’s early oral language skills. The role of the early instructional environment will then be considered after that.

Socioeconomic status and early language exposure

Although acquiring oral language might be said to be biologically natural, there is yet another paradox inherent in the fact that not all children do so at the same rate, nor to the same degree of sophistication and complexity. Language may well be a biologically natural phenomenon; however, it is also one that is highly vulnerable in the face of biopsychosocial threats, as evidenced by high rates of language impairment reported in epidemiological samples, e.g. 7% of pre-schoolers in the USA (Tomblin, Records, Buckwalter, Zhang, Smith, & O’Brien, 1997) and 14% of secondary students in Australia (McLeod & McKinnon, 2007). As Beitchman and Brownlie (2014, p. 35) observe, this “natural” process relies heavily on “. . . countless social interactions that typically support language development”, via processes such as joint attention, conversational recasts and expansions. In highlighting the inextricable relationship between early language exposure and the development of early secure

emotional attachment, Cohen (2001) observed that “Infants’ quality of interacting in a range of situations is related to sensitive and responsive caregiving, which is important for later language, social and cognitive development” (p. 45). This observation reminds us of the role of early language input from carers not only as a means of fostering comprehension, vocabulary growth and early word combinations, but also as a tool by which infants and young children learn to regulate their own affective states and begin to understand some of the nuances of the interpersonal space, by acquiring the language of empathy. Self-regulation and the ability to empathise with another’s affective state are both central to interpersonal success and, hence, mental health. Language and emotional wellbeing in early life, then, are as inextricably associated as language and literacy are in the school years. The foundations of early language development and the emergence of emotional security both depend, however, on the quantity and quality of parental engagement. The evidence on the role of parental input in early language development, therefore, warrants some close attention.

Many readers will be familiar with the now widely referenced landmark research of Hart and Risley (1995). These workers sought to characterise quantitative and qualitative features of children’s early language experience, as a function of their parents’ SES. They recruited 42 families, each with an infant aged 7 months at the study commencement, and recorded monthly hour-long segments of child-directed parent language until the child was aged 3 years. Hart and Risley’s findings with respect to the number of words children in different families were hearing were striking. Children of professional parents heard (i.e. had directed to them) an average of 2153 words an hour, while children of parents on welfare benefits were hearing nearly a quarter of this input—an average of 616 words per hour, with children of working class parents sitting in between at a mean of 1251 words. Hart and Risley estimated that by the time these children were aged 4 years the difference between the lowest and highest SES children would translate into a 30 million word advantage for the higher SES group. This is clearly a huge amount of linguistic and social capital with which to enter the classroom at age 5 years and, on its own, lays bare an uncomfortable truth about the social gradient’s influence on early language learning opportunity. It must be noted, however, that Hart and Risley also identified important *qualitative* differences between the groups, with children from higher SES households receiving more encouraging linguistic input, as well as more expansions and recasts of their own utterances. Looking at these findings overall, it is not hard to extrapolate implications for Stanovich’s (1986) “Matthew Effect” with respect to the depth and breadth of language skills with which children arrive at school.

In a recent study comparing the language skills of low and mid-high SES pre-school children, Roy, Chiat, and Dodd (2014) differentiated between so-called “core” language skills (e.g. production of speech sounds in words, repetition of words and non-words and sentence repetition) and performance on standardised language measures (e.g. on expressive and receptive scales of the Clinical Evaluation of Language Fundamentals-Pre-School 2 UK; Semel, Wiig, & Secord, 2006). Contrary to expectations, these authors found striking differences between the groups on *both* core and standardised language measures. Using a cut-off of 1.5 SD below the mean for low performance, Roy et al. (2014) reported that low-SES children were 6–7-times more likely to score in the low range than their mid-high SES counterparts, whereas non-verbal skills were closer between the two SES groups. Pleasingly, these workers also found that school attendance was positively associated with language scores; however, they caution that family environment may be an important moderating variable in this respect, i.e. those children who appear to be showing a benefit from school attendance may come from families with better overall functioning, such that school attendance can be facilitated. Roy and Chiat (2013) stressed that interventions for children from low-SES backgrounds need to *accelerate*, not simply promote early language skills, in order to put these children in a position to deal with the increasingly complex and highly verbal (and later text-based) nature of the classroom.

Although there is evidence supporting Hart and Risley’s (1995) earlier work on the influence of SES on early language skills (e.g. Locke, Ginsborg, & Peers, 2002; Roy & Chiat, 2013; Roy et al., 2014; Spencer, Clegg, & Stackhouse, 2012; Weisleder & Fernald, 2013), in many respects, this evidence raises more questions than it answers. Are formal standardised tests biased in favour of children from more linguistically enriching families? If so, how should we conceptualise the “norm”? Are we stigmatising some children (and by extension, their families and communities) simply because their language skills are quantitatively and qualitatively different from those on whom standardised measures are normed? How do we identify children from low SES backgrounds who would meet criteria for language impairment irrespective of their postcode? What contribution does learning English as a second language make to low SES in compromising performance on standardised language measures? These are some of the questions requiring ongoing research attention if health inequalities associated with low educational attainment are to be redressed. Notwithstanding this, we already have some evidence about the kinds of instructional environments likely to be of benefit to children from low-SES backgrounds, as will be discussed further below.

Early reading instruction: What does the evidence say?

It is difficult to imagine an area of public policy and practice that has been more hotly and divisively debated in recent decades than the field of early reading instruction. The widespread adoption of views espoused by Whole Language advocates such as Kenneth Goodman, Brian Cambourne, and Frank Smith since the 1970s, has resulted in a deliberate shift away from direct instruction using phonics and the alphabetic principle of phoneme-grapheme correspondences, in favour of approaches that actively discourage analysis below the word level. It is beyond the scope of this paper to provide a detailed history and critique of Whole Language, however interested readers are referred to Hempenstall's (1997, 2005) excellent reviews on this. It is important to note, however, that Whole Language is more than merely an instructional approach. As outlined by one of its founding fathers, Kenneth Goodman, in the US, Whole Language is as much an *ideology* on the position of the learner in relation to the teacher and the material to be learned, as well as having a political stance on the autonomy that should be afforded to teachers within their own classrooms (Goodman, 2014). Whole Language as a philosophical orientation was strongly influenced by the zeitgeist of post-modernism in the 1960s and 1970s, an era that saw a shift away from the power and influence of traditional institutions such as schools, with their emphasis on common needs, to a more individualistic and socially constructed approach to learning and achievement. The work of Chomsky, Piaget and Vygotsky was drawn on to invite reflection on how learners experience and make meaning, rather than relying on direct instruction of a pre-determined and uniform curriculum (Shafer, 1998). In Whole Language classrooms, teachers were positioned as the expert and an explicit mistrust of quantitative, positivist research methodologies was encouraged. Instead, multiple (ideally qualitative) data sources were favoured and were employed in a process of triangulation (Hempenstall, 2005). As a consequence of these ideological and pedagogical stances, children in Whole Language classrooms have been encouraged to learn to read words as units and to do so through reading predictable texts and by employing a range of meaning cues, such as context and accompanying pictures (Goodman, 2014). Phonics-based cues, however, are "... considered potentially harmful, to be used only as a last resort" (Hempenstall, 2005, p. 24).

While such approaches were enthusiastically (and many would say, uncritically) adopted by teacher educators in the 1970s and beyond, there has been widespread debate about the actual efficacy of Whole Language-derived teaching techniques. In Australia, there is clear and converging

evidence that such approaches (a) have been highly influential in Australian teacher education (and by extension, early years classrooms) in recent decades but (b) fail to meet the needs of a significant percentage of children (Buckingham, Wheldall, & Beaman-Wheldall, 2013; Hempenstall, 2005; Prior & Coltheart, 2007). As evidence of this under-performance, let us consider first Australia's performance on the Progress in Reading Literacy Study (Australian Council for Educational Research, 2011). These data show that a quarter of Australian Year 4 students had not attained expected standards in reading and 7% performed extremely poorly. The picture for adults is equally concerning, with Australian Bureau of Statistics (2009) data showing 43.7% scoring at or below Level 2 reading, on a 5-point scale. This very poor performance is felt right across the social and economic spectrum, not least of which by employers, with the Industry Skills Council of Australia releasing a report (*No More Excuses*) in which it stated that:

Literally millions of Australians have insufficient language, literacy and numeracy (LLN) skills to benefit fully from training or to participate effectively at work. The situation looks as if it could be getting worse, not better: the LLN performance of Australian students has, over the past decade, worsened in comparison to other OECD countries (Industry Skills Council of Australia, 2011, p. 1).

Internationally, there have been three major inquiries into the teaching of reading in the last 15 years. In the US, the National Reading Panel reported in 2000, while in the UK, the Independent Review of the Teaching of Early Reading (Rose, 2006) was released in 2006, soon after Australia's National Inquiry into the Teaching of Literacy (Rowe, 2005) was published. Without exception, these reviews emphasised the evidence-base that favours the explicit teaching of systematic synthetic phonics in the early years' classroom. Importantly, none of these reviews referred to systematic synthetic phonics as being adequate in its own right as an instructional approach, as evidenced by Recommendation 2 of the Australian review (Rowe, 2015, p. 19):

The Committee recommends that teachers provide systematic, direct and explicit phonics instruction so that children master the essential alphabetic code-breaking skills required for foundational reading proficiency. Equally, that teachers provide an integrated approach to reading that supports the development of oral language, vocabulary, grammar, reading fluency, comprehension and the literacies of new technologies.

As can be seen, this recommendation draws on what is now commonly referred to as the "Five Big Ideas" in early literacy (Buckingham et al., 2013): phonemic awareness, phonics, vocabulary development, comprehension skills, and reading fluency. Although no Australian state or territory has

formally adopted the recommendations of this National Inquiry, there is at least some consensus in early years' education circles around the inclusion of all five elements in teacher training and early year's instruction. Such consensus has, however, been packaged as a would-be peace-offering to all parties in the form of so-called "Balanced Literacy". Proponents of Balanced Literacy argue that this approach draws on the best of both sides of the literacy debate (so-called skills-based and meaning-based teaching approaches) and so puts paid to the argument that phonemic awareness and phonics instruction are neglected in favour of whole-word learning and use of context cues at sentence and discourse levels. However, the reality is neither that simple nor that rosy.

Instead of conveying a sense of equilibrium and distributed emphasis, as one might expect from the word "balance", this term means different things to different users. At its worst, it simply means that decoding skills associated with phonemic awareness and phonics are allowed to be in the room, albeit in diluted form. It does not necessarily mean, however, that systematic synthetic phonics must be the approach of first choice and, *ipso facto*, teachers should be properly prepared in their pre-service education to teach reading using systematic synthetic phonics. As Emeritus Professor Kevin Wheldall (2015) of Macquarie University has recently observed:

Even the most rabid adherents of the old school whole language philosophy today claim (at least in public) that there is clearly room for phonics in the mix—some even claim that they have always said this . . . But here is the rub: they typically do not advocate phonics instruction as the method of first choice for teaching decoding and prefer, if it has to occur at all, that it be incidental as opportunity arises.

It is not appropriate in the twenty-first century for education (or any other) academics to promulgate the idea that research evidence is like religion: one can choose to follow and believe in one doctrine, while turning one's back on others. The scientific method requires that the same level of scrutiny, critical appraisal and scepticism is applied to *all* research, irrespective of its paradigm or its authors. It is similarly not appropriate to attribute political alignment as a function of support (or not), for Whole Language. Statements such as the following illustrate the unhelpful obfuscation that is associated with such approaches:

Many theories have been offered as to why whole language has become so partisan and acrimonious—and why conservatives in particular seem threatened by its humanistic objectives. What seems glaringly clear, in the end, is that whole language—with its caveat for student liberation and control—scars people who want to maintain a hierarchical, top-down approach to learning (Shafer, 1998, p. 20).

Teacher knowledge and The Peter Effect

There is a science to the teaching of reading and pre-service teachers need to understand the linguistic infrastructure that learners need to draw down on in order to master the written code. Fostering a love of reading and a fascination for all the media by which one can access the written word is of course critical. However, learning to read is far too important a life-skill (a human right, one might argue) to leave to the vagaries of teaching approaches that place appeasement of ideological stakeholders above the acquisition of real skills by all learners, irrespective of their starting point on the SES ladder. Indeed, as outlined further below, evidence indicates that children from low-SES communities stand to derive a particular benefit from direct instruction in phonics-based learning, an approach that might go some of the way towards providing the progress acceleration needed for children from disadvantaged backgrounds (Roy & Chiat, 2013).

Further evidence of the fact that Balanced Literacy has not brought with it an authentic emphasis on systematic synthetic phonics as an instructional approach lies in findings from a number of studies examining teacher knowledge about linguistic constructs related to evidence-based reading instruction, e.g. phonemic awareness, phonological awareness, phonics, morphology, syllable structure and sentence and discourse-level analysis of spoken and written language.

A large number of Australian (Fielding-Barnsley, 2010; Hammond, 2015; Mahar & Richdale, 2008; Stark, Snow, Eadie, & Goldfeld, 2015; Tetley & Jones, 2014) and international studies (Cunningham, Perry, Stanovich, & Stanovich, 2004; Joshi, Binks, Hougen, Dahlgren, Ocker-Dean, & Smith, 2009; Moats, 2014; Piasta, Connor, Fishman, & Morrison, 2009) have consistently identified low levels of basic linguistic knowledge in primary school teachers, such that it would not be feasible for them to deliver evidence-based systematic synthetic phonics programs as intended. In addition to inadequate core knowledge, teachers in these studies were also unfortunately not good at calibrating their own level of understanding, which they tend to substantially over-estimate (Cunningham et al., 2004; Stark et al., 2015). Collectively, findings such as these have given rise to the term "Peter Effect" in literacy instruction: a biblical reference to the notion that one cannot give what one does not have (Applegate & Applegate, 2004).

In the US, a study by the National Council on Teacher Quality held university education faculties to account for the nearly 40% reading failure rate in public schools (Walsh, Glaser, & Wilcox, 2006). Walsh et al. reviewed course outlines and required texts from a random and representative sample of US primary education programs and found that only 15% of them minimally exposed future

teachers to the science of reading instruction. Given the extent to which Australia has shadowed the US on the adoption of Whole Language teacher education, there is no compelling reason to believe that a similar audit here would yield materially different findings. Indeed, in January 2015, a New South Wales Board of Studies, Teaching and Educational Standards media release outlined a range of recommendations aimed at improving student outcomes, including: “Primary teachers must be skilled in the explicit and systematic teaching of phonics and phonemic awareness”. Pleasing in all as this is, it must be noted that it comes a full decade after the release of the National Inquiry into the Teaching of Literacy (Rowe, 2005), in which the teaching of systematic synthetic phonics was a key recommendation.

There is also an unfortunate inter-generational element that needs to be considered in this context, in that a significant proportion of the contemporary teaching workforce are, themselves, products of Whole Language classrooms, simply by virtue of the era in which they completed their primary school education. Indeed, it is likely that the same can be said for university education academics. There is probable near-extinction, therefore, of teachers and teacher educators who have received direct instruction on the rules of spelling, grammar and morphology, as well as the principles of etymology during their own formative years. There is a degree of specialised linguistic knowledge that is required in order to determine the number of phonemes in a word such as “fix” or to understand that a word such as “walked” has one syllable, but two morphemes. Further, while many teachers may have an adequate *implicit* knowledge of the rules of spoken and written grammar, it is *explicit* mastery that is required in order to teach such principles and their associated rules to novice learners in the classroom.

The above evidence calls into serious question, then, claims of Balanced Literacy advocates that “all is well” with respect to application of evidence in early reading instruction (e.g. Riddle, 2015). Homeopathic doses of phonemic awareness and phonics instruction in teacher-training and classroom practice de-value the reading instruction currency for all concerned, most notably teachers and their students. In an era of increased political and epistemological emphasis on teaching quality, all stakeholders are done a disservice when ideological dogma holds more sway than scientific evidence. This is not “balance” and it should not be accepted as such by teachers, SLPs, parents, politicians or the media.

Whole Language approaches have resisted three national inquiries and the evidence derived from a raft of cognitive psychology research about the decoding skills that children need in order to become skilled and proficient readers. Sadly, evidence

indicates that children from disadvantaged backgrounds derive particular benefit from exposure to such approaches (Foorman, Francis, Fletcher, & Schatschneider, 1998; Moats, 2000; Wheldall, 2009), however ideological barriers stand between such children and exposure to evidence-based reading instruction. In reviewing the outcomes of Project Follow Through, the largest formal educational research study ever undertaken (involving 75 000 children in 180 communities), Hempenstall (2005, p. 27) notes that the significant benefits of Direct Instruction over other models “... had negligible impact on educational policies”. Whole Language, it would seem, is quarantined in something of an empirical-evidence bullet-proof vest. As Whole Language proponent Harris (1993, p. 52) prophetically stated over two decades ago:

Whole language will not disappear. It has gained a tremendous foothold in the two major literacy organizations, the International Reading Association and the National Council of Teachers of English ... Whole language has also become institutionalized. Professors who advocate the perspective are found in major colleges and universities preparing a new generation of teachers.

Evidence as to the veracity of this claim lies not only in the continuing strong influence of Whole Language philosophies and practices in teacher education, but also in the influence of its prominent “descendent”, Reading Recovery. A discussion of Whole Language instructional approaches would not be complete without at least some reference to this popular, although contested intervention approach.

Reading recovery

Reading Recovery is a remedial reading program developed in New Zealand in the 1970s by the late Dame Marie Clay (see Clay, 1993) to accelerate the progress of the lowest-progress readers after a year of formal education. In schools that adopt Reading Recovery, specially-trained teachers provide daily 1:1 30-minute blocks of instruction, typically over a period of 20 weeks, emphasising the Whole Language-based “Three Cuing” technique (helping the child to derive meaning from semantic, syntactic and, as a last resort, grapho-phonetic cues). This approach is based on the Whole Language argument that English has poor letter-sound correspondence and so phonics-based instruction is misguided, if not harmful. In fact, however, some 50% of words in English are directly decodable from their written form and a further 36% violate only one sound-letter rule (usually via a vowel), 10% can be spelt correctly if morphology and etymology are taken into account and fewer than 4% are truly irregular (Hanna, Hanna, Hedges, & Rudorf, 1996; cited by Moats, 2010), so this argument does not hold up. It is beyond the scope of this paper to review Reading

Recovery in any depth; however, it is important to note that it has been the subject of vigorous scrutiny in Australia and overseas, including in New Zealand, from whence it originated, where it has failed to meet the needs of the struggling readers from disadvantaged communities for whom it was specifically designed (Tunmer, Chapman, Greaney, Prochnow, & Arrow, 2013).

Like its ancestral father Whole Language, Reading Recovery is controversial and divisive and enjoys an almost faith-based following among many teachers. This no doubt reflects the earnest desires of such teachers to effect improvement in struggling readers' performance and the fact that at least some children derive at least some benefit from this expensive, wait-to-fail approach. Longer-term follow-up studies show, however, that initial apparent gains are prone to washing out over time and many students who are thought to have been "successfully discontinued" from a Reading Recovery program are in fact instructional casualties in the longer term (Tunmer et al., 2013). It is also notable that in-depth qualitative research indicates that, when probed, even teachers who are Reading Recovery "devotees" express reservations about its ability to meet the needs of all struggling readers (Serry, Rose, & Liamputtong, 2014).

A way forward?

There is clearly no easy fix to the complex, historically embedded political, ideological and epistemological factors that have conspired to create the impassable described in this paper. The most positive aspect of the landscape is the passion that exists on both sides of the ideological divide with respect to fostering children's literacy. It must be noted, however, that this is no simple Mason-Dixon Line. Not all teachers are unduly influenced by Whole Language pedagogy and not all SLPs' practice is aligned with the evidence outlined in the three national enquiries described earlier. It is probably fair to say, however, that, in the main, there is insufficient overlap in the knowledge bases shared by these two professions, and, in large part, this is likely to reflect the siloed way in which health and education undergraduates receive their pre-service university training. There is an opportunity here for SLPs in university appointments to establish links with their education faculty colleagues, to initiate a dialogue about the language-literacy nexus in the early years, and opportunities that might be created for SLP and teaching students to enrol in shared subjects on these topics. Just as teachers need to understand more about basic linguistics, SLPs need to learn about evidence-based approaches to early literacy instruction.

Further promise lies in Response to Intervention, a three-tiered educational model spanning universal, targeted and specialist intervention from teachers and allied health professionals such as SLPs (see

Justice, 2006). RTI is an evidence-based, data-driven model aimed at preventing academic and behavioural difficulties through the application of high-quality Tier 1 (universal) instruction, together with early identification of students in need of more frequent and/or intensive instructional support in small groups (Tier 2), as well as the even smaller percentage of students who will require periods of 1:1 services in order to achieve designated benchmarks (Tier 3). Delivery of high-quality instruction at Tier 1 is of paramount importance to successful RTI, so that all children, irrespective of their socio-economic or neurodevelopmental starting points, derive maximal benefit from the early years' classroom. It is not the job of SLPs to teach teachers how to teach reading. This is the role of teacher educators. SLP skills will be rapidly diluted if their expertise is primarily oriented at Tier 1, rather than at the children identified for more clinically specialised services at Tiers 2 and 3.

SLPs need to have a sound grasp of political influences on school policies and practices with respect to early literacy and need to be skilled, assertive and persistent in their use of evidence to counter anti-science thinking in education. In the same vein, they need to ensure that their own assessment and intervention practices are well-informed and justifiable on the basis of empirical evidence. Evidence-based thinking and doing are no less important in education than they are in health. However, they are far more commonly absent or under-represented in educational settings.

Education has a long-established track-record of adopting new approaches well ahead of the science that supports their use (e.g. learning styles; notions of left-brain/right-brain learners and multiple intelligences). Sadly, some such approaches maintain their grip on classroom practice long after the science that disproves their efficacy is in. For this reason, all stakeholders in children's early academic achievement, including SLPs, need to maintain a high index of scepticism and wariness when new approaches to reading instruction and/or remediation are being canvassed. There is a developmental window of ~3 years which is ideal for establishing the foundations for early reading success, thus minimising the impact of the Matthew Effect on subsequent educational attainment and life chances. Scientist-practitioners such as SLPs have an ethical and epistemological responsibility to advocate at policy and classroom levels for best-practice, even when such advocacy is met with reluctance and resistance, if not overt hostility.

Through the title of one of her monographs, Moats (1999) has asserted that "*Teaching Reading IS Rocket Science*". This metaphor can be extended even further if we consider that, when launching a rocket, being inches out on the launching pad will mean being miles out in space.

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